

## ***Making Relay Functionally Equivalent***

### **I. Legislative Basis.**

In 1990 Congress enacted the Americans with Disabilities Act. Title IV of the ADA was designed to provide deaf and hard of hearing persons the access to the telephone system that hearing persons take for granted. At that time, fourteen years ago, the telephone system was largely composed of plain old telephone service (“POTS”) lines. Wireless service was still a luxury available chiefly in the urban areas of the country. The Internet did not exist as we know it today. High speed data lines were simply unavailable to most individuals or business users. And such services as voice mail, caller ID and three-way calling were only beginning to be made available to subscribers. The telephone system has come a long way in that short period of time.

At that time, there was generally only one way a deaf person could use the telephone. That was with a TTY device (also known as a Telecommunications Device for the Deaf or TDD); that, however, was if the other party to the call also had a TTY, which few hearing persons possessed. As a result, deaf and hard of hearing individuals were effectively excluded from the telephone system.

Congress recognized that impediments to disabled persons placed a high cost on the economy. Disabled persons were relegated to lesser jobs, if any, dependency and non-productivity. Indeed, unemployment and underemployment are particularly high among deaf and hard of hearing individuals. The inability to use effectively the nation’s telephone system is a major contributing factor to unemployment and lack of advancement of deaf and hard of hearing persons. With the intent to remedy these economic problems, Congress created a national telecommunications relay system to make the nation’s telephone system accessible to deaf and hard of hearing persons.

Section 225(a)(3) of the Communications Act of 1934, as amended, part of the ADA, defines telecommunications relay services (“TRS”). In enacting this provision, Congress determined that “to make available to all individuals in the United States a rapid, efficient nationwide communication service, and to increase the utility of the telephone system of the Nation,” the Federal Communications Commission was to “ensure that interstate and intrastate telecommunications relay services are available, to the extent possible and in the most efficient manner, to

hearing-impaired and speech-impaired individuals in the United States.” Congress further required that TRS be paid for from the revenues of all telecommunications providers in order to ensure that deaf and hard of hearing persons would pay no more for TRS than hearing persons pay for telephone service.

Congress defined TRS to mean “telephone transmission services that *provide the ability* for an individual who has a hearing impairment or speech impairment *to engage in communication* by wire or radio with a hearing individual *in a manner that is functionally equivalent* to the ability of an individual who does not have a hearing impairment or speech impairment to communicate using voice communication services by wire or radio. Such term includes services that enable two-way communication between an individual who uses a TDD or other non-voice terminal device and an individual who does not use such a device.” (Emphasis supplied.)

## **II. Conceptual and Policy Underpinnings.**

By defining TRS as it did, Congress laid the philosophical foundation of the right of access to telecommunications on the same ground as that underpinning the right of access to the benefits of education and effective participation in society envisioned by the Constitution as interpreted by *Brown v. Board of Education* and succeeding case protecting the right of access to facilities, transportation, government benefits and employment.

The key concept is the term “functionally equivalent.” If one were to take “active” words from the definition of TRS so as to give the phrase a meaningful context in daily life, the TRS definition would read, “services that provide the ability to engage in communication in a manner functionally equivalent to the rest of society.” At the core of Congress’s vision is that it is not sufficient that the service merely allow deaf and hard of hearing persons to communicate with hearing persons if the service provisioning for the ability to communicate is not functionally equivalent.

In the area of telecommunications, effective communication between hearing persons is directly related to the technology that enables people to be engaged meaningfully in social interaction with one another through a shared, understandable language, whether it be auditory or visual. At the very least, “functional equivalence” requires that the deaf and hard of hearing users of telecommunications service be able to communicate with hearing persons and with

each other in a manner, whether technological or not, that supports the ability to communicate effectively. A key point then is that regulations implementing Congress's mandate that effective communication for deaf and hard of hearing persons with hearing persons require that each side to the conversation be able to use the communications modality that ensures effective discourse.

### **III. Functional Equivalency and Telecommunications.**

To further dissect the nature of telecommunications functional equivalency, one must first review the telephone services available to hearing persons. Those services are quite varied and robust. Aside from traditional wired telephone service, hearing persons have available wireless service, voice mail, and a variety of additional services, such as three-way calling, caller ID, speed dialing, call forwarding and answering machine message retrieval. These services are all provided on demand 24 hours a day, seven days a week. What all these services do is enable hearing persons to reach one another, to convey information, and to interact as individuals in a society as best suits their ability to communicate, at their convenience and liberty. For the vast majority, that ability to communicate involves auditory means to convey the necessary emotional context and meaning. For persons with hearing loss, the necessary emotional context and meaning must be provided differently to achieve a comparable capacity to communicate. For at least the 500,000 deaf and hard of hearing Americans, neither written nor spoken English is their natural expressive language. For many,<sup>1</sup> the only meaningful communication between each other involves a manually expressed language, which is American Sign Language.<sup>2</sup>

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<sup>1</sup> The exact number of persons for whom ASL is their primary language is not widely reported. A 1987 study placed that number upwards of 500,000. No study could be found providing more recent data. However, deaf and hard of hearing advocacy groups place that number much higher. Plainly the number of ASL users has grown significantly in the last 17 years.

<sup>2</sup> ASL is a complete, complex language that employs signs made with the hands and other movements, including facial expressions and postures of the body. It is the first language of many deaf North Americans. ASL is said to be the fourth most commonly used language in the United States.

ASL is a visual/gestural language, distinct from English and other spoken languages, from sign languages used in other countries, and from English-based sign systems used in the United States (such as manually coded English systems. ASL is the predominant language--in other words, the language used most frequently for face-to-face communication, learned either as

#### **IV. Closing the Gap in Functional Equivalency Through Technology.**

For many deaf and hard of hearing persons using traditional TRS is problematic. Traditional relay service, is text-based in a second language (English) and the relay process often involves slow and unnatural communications protocols between deaf and hearing callers. Text-based relay cannot display expressive communication such as occurs on a telephone call between hearing persons. Inflection, pauses, and other extra-verbal cues cannot be conveyed solely through the written word.

In addition, text-based TRS calls tend to be very long compared to the information conveyed owing to the need to type out both sides of the conversation, and the need for each side of the conversation to wait while the message is being typed out before responding. Many persons will not accept text-based TRS calls just for this reason.

Moreover, text-based relay cannot adequately serve persons with limited English or typing skills. Due to difficulties encountered in learning English, many deaf people cannot effectively use text-based relay. For example, it is widely reported that the average deaf adult reads at a 4<sup>th</sup> grade level. Therefore, a text-based medium of communication poorly serves this community.<sup>3</sup> This is even more a factor in the case of foreign born individuals or young children who are

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a first or second language -- of deaf native signers, hearing children of deaf parents, and adult deaf signers who have learned ASL from other deaf individuals.

Parents are often the source of a child's early acquisition of language. A deaf child who is born to deaf parents who already use ASL will begin to acquire ASL as naturally as a hearing child picks up spoken language from hearing parents. However, language is acquired differently by a deaf child with hearing parents who have no prior experience with ASL. Some hearing parents choose to introduce sign language to their deaf children. Hearing parents who choose to learn sign language often learn it along with their child. Nine out of every ten children who are born deaf are born to parents who hear. Other communication models, based in spoken English, exist apart from ASL, including oral, auditory-verbal, and cued speech. As with any language, interaction with other children and adults is also a significant factor in acquisition.

<sup>3</sup> For those deaf and hard of hearing persons with limited English skills communicating in text will always be an inadequate medium for it requires them to use a form of language they have not fully acquired to express themselves and to understand others. This often leads to miscommunication. It would be like telling a recent immigrant who can hear that he could only communicate on the telephone in English, or at least the best English he could compose.

deaf. A telling example of the limitation of text-based relay is the alarmingly high spelling error rate of five to six percent in TTY calls.

To place text based communication in a familiar context, TRS is similar to the communication experience of hearing users of “instant Chat” and email, except that it is far from instant. Perhaps an even more apt comparison is that text-based relay has approximately the communications functionality of a conversation between telegraph operators.

One cannot say text-based communication is the primary, preferred means of communication between hearing persons, given its inherent limitations. Accordingly, one cannot say that text-based communications is functionally equivalent to voice communications precisely because of its inability to be equivalent to the capability of voice communications to convey the desired bandwidth of meaning.

Congress, itself, was concerned with the inadequacy of then nascent relay services when the ADA was enacted. In requiring the FCC to adopt regulations implementing relay nationwide, Congress required that the “Commission shall ensure that regulations prescribed to implement this section encourage ... the use of existing technology and do not discourage or impair the development of improved technology.” Congress was keenly aware that it is only through technically feasible means that the functional equivalency gap may be closed. As an initial measure in ensuring functionally equivalent service, not just bare minimal service, Congress required that relay service be provided on a 24-hour basis. This made on-demand telephone access available to TRS users. To further ensure functional equivalence via existing technology, the FCC required that 85 percent of relay calls be placed within 10 seconds (this requirement being considered functionally equivalent to a hearing person receiving a dial tone). Acting in progress toward fulfilling the Congressional mandate, the FCC required in June of 2003 that various additional services be available to relay callers.

Unfortunately, however, the required traditional relay service lies at a point far from Congress’s goal of true functional equivalency due to its text-based approach. Video Relay Service (“VRS”) solves many of the functional inadequacies of text-based relay. VRS allows a deaf or hard of hearing person to make a telephone call via an Internet video connection between the user and the relay center staffed with ASL interpreters. VRS thus allows conversations to occur at approximately normal speed. VRS requires a minimum of typing skills and is

thus accessible to young children. Moreover, VRS allows for the transmission of non-verbal or extra-verbal communication from the deaf or hard of hearing person to the interpreter and from the interpreter, through voice inflection, to the hearing person. Lastly, VRS allows deaf and hard of hearing persons to converse in their primary natural visual language, ASL, and thus makes telecommunications services available to persons with limited written English skills.

VRS thus promotes Congress's intent to ensure that deaf and hard of hearing persons have an equal opportunity to participate in the work place at their highest and best level. VRS helps prevent the deaf and hard of hearing from being relegated to menial jobs and assists their achieving maximum productivity in the nation's economy.

The most telling evidence that VRS offers greater functional equivalency to telecommunications service provided hearing persons, is the spectacular increase in the demand for the service. VRS minutes increased from 94,811 in November of 2002 to 327,652 in November of 2003. NECA now projects more than 900,000 VRS minutes a month by June 2004, a month over month increase of some 16 percent. Plainly the growth in VRS is being fueled by its improved functionality compared to text-based TRS.

## **V. Undermining the Progress towards Equality.**

However, current funding constraints are hampering the ability of VRS to provide truly functionally equivalent service. Because VRS utilizes the interstate telecommunications highway of the Internet, as does text-based IP relay, the FCC has required that it be paid for through the Interstate TRS fund, administered by the National Exchange Carrier Association ("NECA"). In July of 2003, the FCC cut the rate paid VRS providers by some 55 percent of the previous rate (of some \$17 per minute) and by some 45 percent of what, NECA, the TRS fund administrator, had recommended (some \$14 per minute). The rate cut had an immediate and drastic affect on VRS service and providers.

This rate cut served to grossly undermine advances toward the posited goal of achieving functional equivalency of access to and experience of effective communication that is enjoyed by hearing persons. As a result of the drastic and immediate rate cut, VRS providers had to immediately scale back operating hours and lay-off staff. CSD, which had been providing 24 hour VRS service, cut back its service to 18 hours on weekdays and 16 hours on weekends. Other VRS

providers did likewise or put on hold plans to increase service hours.<sup>4</sup> Wait times (the equivalent according to the FCC of a dial tone) just to place a call began to skyrocket. Wait times are now averaging in excess of a minute, several times the standard the FCC set for text-based relay, which already has a delayed wait time compared to that experienced by voice telephone users. There are reports of delays of as much as 30 minutes to place a call with some providers. Thus, video relay service, which is closest in functionality to the telecommunications service available to hearing persons and capable of supporting the unique communications needs of its users, is restricted from full utilization because it is not available on demand to deaf and hard of hearing persons and to hearing persons needing to contact them.<sup>5</sup> The adverse impact the rate cut has had on VRS service is being felt particularly hard by those deaf and hard of hearing persons in the workplace. For example, the Deaf and Hard of Hearing in Government, a consortium of more than 5,000 federal employees who are deaf or hard of hearing, advised the FCC of their reduced ability to use VRS in the performance of their jobs.

Although the FCC has waived, temporarily, the requirements that VRS be offered on a 24-hour basis and that 85 percent of calls be answered within 10 seconds, it does not justify denying the service adequate funding. The lack of adequate funding is the chief factor limiting provision of 24 hour service and which is causing substantial wait times for service. This denies functional equivalence to a class of citizens Congress sought to aid.<sup>6</sup>

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<sup>4</sup> Hands On Video Relay Service, AT&T Relay and MCI's IP Relay VRS operate the same hours as CSD. Sorenson VRS limited its weekday service hours to 8:30 am to 12 midnight, eastern, noon to 8 p.m., Saturday and noon to 6 p.m. Sunday, Eastern Time. Hamilton VRS is available from 8:30 am to 10 p.m., Central Time, on weekdays, 8:30 to 5 p.m. on Saturdays and 6 p.m. to 10 p.m. on Sundays. Communications Access Center offers service from 6 am to 10 p.m., central time, weekdays, 9 am to 5 p.m. Saturdays and noon to 5 p.m. on Sundays.

<sup>5</sup> It is important to emphasize that the problems discussed here are industry-wide, and not confined to one or a few providers. All providers are suffering under the existing VRS rate structure, as are all VRS users.

<sup>6</sup> Achievement of 10 second/85 percent speed of answer is possible if a sufficient number of VRS interpreters are available. That, in turn, requires that a sufficient number of interpreters be available in the marketplace and that VRS providers be able to pay for them. Both of these factors are problematic at the present interim rate. At some price, the law of supply and demand will provide a sufficient number of interpreters. However, at the current VRS interim compensation rate, VRS providers neither can pay video interpreters sufficiently, nor attract a sufficient number of interpreters to provide a 10/85 grade of service.

Aside from the lack of on-demand service, the lack of sufficient funding denies VRS users functional equivalence in several other ways. The provision of sufficient funding is necessary to allow VRS providers to make engineering modifications, including software design and platform interfaces, to implement the various telecommunications services hearing persons take for granted, such as caller ID, immediate 911 routing, etc. In addition, VRS generally is not available to users of MacIntosh operating system computers and other computers using operating systems other than Microsoft Windows. And not all VRS providers have compatibility with the D-Link video phone device.<sup>7</sup> The lack of sufficient funding for VRS prevents VRS providers from conducting the research and development necessary to offer VRS to deaf and hard of hearing users with computers employing other than Windows operating software. Nor is it a sufficient answer that the deaf and hard of hearing persons can always buy a Windows dependent machine. This results in duplicative systems, which unnecessarily penalizes VRS users who not only purchase a telephone line like all other telephone users, but

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The real question here is what grade of service is considered sufficient to meet the functional equivalence standard. For hearing persons the telephone network is designed to provide an immediate dial tone 99 percent of the time and also to deliver a call to the called person's telephone line 99 percent of the time. By contrast, merely requiring 85 percent of calls to be answered within 10 seconds is a dismal quality of service standard. Perhaps for cost considerations, the FCC desires to relax the service grade even further. Should it do so, however, it should be under no illusion that it is providing the deaf and hard of hearing community with functional equivalency to that available to the hearing community. To actually achieve functional equivalency, the VRS grade of service standard should be no worse than 90 percent of calls answered within 10 seconds. In fact, however, even to approach the grade of service offered the hearing community, the standard should be 95 percent of calls answered within 10 seconds.

<sup>7</sup> The D-Link device, called the i2eye DVC-1000 VideoPhone, is a broadband appliance that delivers IP videoconferencing capability for communicating that connects to a standard television and broadband connection to stream video-enabled phone calls. The i2eye thus provides the ability to "videospeak" over any broadband connection, delivering sound and images directly to the television screen. Designed to sit on top of the television, i2eye features an adjustable tilt/focus camera lens and integrated microphone to capture full-screen video and wide-coverage sound. The i2eye picture is streamed at up to 30 frames per second so video images can be viewed with minimal frame loss. It thus does not require a PC to operate. The D-Link device, however, carries a hefty MSRP of \$299.99 and requires substantial engineering development time to bring accessibility of a video phone device into the technology of a provider's platform and databases. This extra engineering is essential to meet the FCC's reporting requirements as well as to allow videophone users access to VRS service.



must pay an additional \$30-50 a month for a DSL speed line just to communicate in their natural visual language. After all, it is the purpose of the functional equivalency standard and NECA funding mechanism to ensure that deaf and hard of hearing users pay no more for relay service than they would pay for standard telephone service were they not limited by a disability.

The FCC, in a June 2003 order, determined that various additional services are necessary to achieve functional equivalency for text-based relay. In that same order, the FCC waived temporarily the requirement that VRS provide these services, while requiring VRS providers to issue annual reports on their progress in providing these services. Thus, the FCC did not find that these additional services are unnecessary to provide functional equivalence. Rather, by requesting progress reports, it implied that technological development is necessary to implement these services. In order to fulfill its mission to make available to the deaf and hard of hearing community functionally equivalent telecommunications service, it is incumbent on the FCC to ensure adequate funding for VRS.

Again, the current reimbursement level is preventing VRS providers from taking steps to implement the services the FCC has determined are necessary for full functional equivalence for relay services. In fact even where such services have been developed for VRS, the FCC has recently indicated it will not allow these services to be reimbursable through NECA. Just recently, the FCC informed the TRS Fund administrator not to reimburse VRS minutes comprised of video mail. Video mail is the functional equivalent of voice mail. Video mail consists of a call made by a hearing person to a deaf or hard of hearing person who fails to answer the call. Rather than a hang-up and lost message, the video interpreter records the message, and emails either the recorded message to the deaf or hard of hearing person's computer, or sends the deaf and hard of hearing person an email advising that he has a video mail and advising how he can retrieve it. Video mail is technologically feasible as CSD was providing it prior to being advised that it was not subject to compensation. Relay users desire such a service. And such service is necessary to provide functional equivalence to the voice mail regularly available to hearing users of the telephone system. Yet, deaf and hard of hearing users are being denied this functionally equivalent service. 8

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8 It is to be emphasized that we are talking here only of reimbursing the minutes a VRS interpreter uses to record the video mail. Plainly these minutes should be compensated as VRS just as if the interpreter were leaving a voice mail message for a hearing person.

Similarly, the FCC has instructed NECA not to pay for ASL to Spanish VRS calls. The rationale is that such a call is not a “shared-language” call. In the VRS context, however, the “non-shared” language issue is a red herring. As discussed above, ASL is a separate language. It is the natural language of those deaf and hard of hearing persons who use it as their primary means of communication. It is not English. It is not Spanish. It is not French. It is ASL. For VRS, then, there is no shared language. It is vitally important that VRS providers be able to interpret ASL to Spanish. Although English is the primary language spoken in the United States, Spanish is a strong second. The FCC has noted that there are more than 7,000 deaf children from Spanish speaking households in the United States. For many of them, ASL is their first and only language. These children should be entitled to communicate with their parents and other Spanish speakers via VRS just like hearing children of primary Spanish language parents may do. Functional equivalency requires no less.

## **VI. Mistaking the Finger for the Moon.**

It is beyond dispute that the NECA fund serves as the engine behind progress towards achieving functional equivalency, given its long history as a mechanism for encouraging private sector participation. Although the FCC was right to examine the rate paid for VRS, the Commission’s Consumer and Governmental Affairs Bureau, which administers the TRS program at that agency, seems under the mistaken impression that text-based TRS is adequate to achieve functional equivalence and that VRS is a mere “nice to have.”

This is aptly illustrated by the statement of one FCC official that traditional “TRS is functionally equivalent.” That is a view best relegated to the time when traditional TRS was considered functionally equivalent because the only other option then available was nothing. Other comments from the FCC staff suggest that anything beyond bare minimal VRS service are considered to be “gold-plating.” This myopic view at the expense of fulfilling the promise offered by VRS appears influenced by the desire to control the cost of VRS, to the detriment of a community of citizens the FCC has a national mandate to serve and protect, as well as those bound to this community as friends and family. This view of saving telecommunications rate payers money at the cost of providing less than functionally equivalent services to the deaf and hard of hearing community is evidenced by information presented to the public by FCC officials. See <http://www.fcc.gov/realaudio/presentations/2004/011504/cgb.ppt> at slide 14 (where the FCC touts reduction of the VRS rate as a savings to

telecommunications rate payers, but does not mention the effect on the deaf and hard of hearing community). For the FCC to take that view through its rate actions, absent a specification from Congress that the fund be administered to benefit rate payers, is to abandon its mandate to ensure functional equivalency.